

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Well Operator's Report of Well Work

API 47 - 095 - 02287 County Tyler District Meade
Quad Pennsboro 7.5' Pad Name Terry Snider Pad Field/Pool Name -----
Farm name Terry L. Snider Well Number Tinker Unit 2H
Operator (as registered with the OOG) Antero Resources Corporation
Address 1615 Wynkoop Street City Denver State CO Zip 80202

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4357622m Easting 503103m
Landing Point of Curve Northing 4357815.26m Easting 503448.05m
Bottom Hole Northing 4360157m Easting 502531m

Elevation (ft) 1146.5' GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine
Mud Type(s) and Additive(s)
Air - Foam & 4% KCL
Mud - Polymer

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Date permit issued 8/21/2015 Date drilling commenced 5/10/2016 Date drilling ceased 11/12/2016
Date completion activities began 10/4/2017 Date completion activities ceased 4/14/2018
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft N/A Open mine(s) (Y/N) depths No
Salt water depth(s) ft N/A Void(s) encountered (Y/N) depths No
Coal depth(s) ft None Identified Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed

Reviewed by:
GCB
9/12/2018

API 47- 095 - 02287 Farm name Terry L. Snider Well number Tinker Unit 2H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	24"	20"	65'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	516'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2578'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	15391'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6838'		4.7#, N-80		
Packer type and depth set		N/A					

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Class A	60 sx	15.6	1.18	120	0'	8 Hrs.
Surface	Class A	603 sx	15.6	1.18	826	0'	8 Hrs.
Coal							
Intermediate 1	Class A	995 sx	15.6	1.18	1181	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	790 sx (Lead) 1232 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.44 (Lead), 1.87 (Tail)	3774	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 15391' MD, 6445' TVD (BHL), 6460' (Deepest Point Drilled) Loggers TD (ft) 15391' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5966'

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____

Conductor - 0
 Surface - 1 above guide shoe, 1 above insert float, 1 every 4th joint to surface
 Intermediate - 1 above float joint, 1 above float collar, 1 every 4th joint to surface
 Production - 1 above float joint, 1 below float collar, 1 every 3rd joint to top of cement

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED N/A

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API 47- 095 - 02287 Farm name Terry L. Snider Well number Tinker Unit 2H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
*PLEASE SEE ATTACHED EXHIBIT 1					

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

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Complete a separate record for each stimulation stage.

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Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)
*PLEASE SEE ATTACHED EXHIBIT 2							

Please insert additional pages as applicable.

API 47- 095 - 02287 Farm name Terry L. Snider Well number Tinker Unit 2H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
Marcellus	6414' (TOP)	TVD	6897' (TOP) MD
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 2800 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 7692 mcfpd Oil 87 bpd NGL --- bpd Water 460 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
*PLEASE SEE ATTACHED EXHIBIT 3					

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Please insert additional pages as applicable.

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Drilling Contractor Patterson - UTI Drilling Company LLC
 Address 207 Carlton Drive City Eighty Four State PA Zip 15330

Logging Company Kodiak Services Int'l
 Address 2219 Sawdust Road, Unit 1604-1605 City The Woodlands State TX Zip 77380

Cementing Company BJ Services
 Address 1036 East Main Street City Bridgeport State WV Zip 26330

Stimulating Company Baker Hughes
 Address 837 Philippi Pike City Clarksburg State WV Zip 26301

Please insert additional pages as applicable.

Completed by Megan Griffith Telephone 303-357-7223
 Signature  Title Permitting Agent Date 8/20/2018

API 47-095-02287 Farm Name Terry L. Snider Well Number Tinker Unit 2H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	11/24/2017	15120	15289	60	Marcellus
2	11/24/2017	14920	15089	60	Marcellus
3	11/24/2017	14720	14889	60	Marcellus
4	11/25/2017	14520	14689	60	Marcellus
5	11/26/2017	14320	14489	60	Marcellus
6	11/27/2017	14120	14289	60	Marcellus
7	11/28/2017	13920	14088	60	Marcellus
8	11/28/2017	13720	13888	60	Marcellus
9	11/29/2017	13520	13688	60	Marcellus
10	11/29/2017	13319	13488	60	Marcellus
11	11/29/2017	13119	13288	60	Marcellus
12	11/30/2017	12919	13088	60	Marcellus
13	11/30/2017	12719	12888	60	Marcellus
14	12/1/2017	12519	12688	60	Marcellus
15	12/1/2017	12319	12488	60	Marcellus
16	12/1/2017	12119	12288	60	Marcellus
17	12/2/2017	11919	12088	60	Marcellus
18	12/3/2017	11719	11888	60	Marcellus
19	12/3/2017	11519	11687	60	Marcellus
20	12/4/2017	11319	11487	60	Marcellus
21	12/4/2017	11119	11287	60	Marcellus
22	12/4/2017	10918	11087	60	Marcellus
23	12/5/2017	10718	10887	60	Marcellus
24	12/5/2017	10518	10687	60	Marcellus
25	12/7/2017	10318	10487	60	Marcellus
26	12/9/2017	10118	10287	60	Marcellus
27	12/10/2017	9918	10087	60	Marcellus
28	12/11/2017	9718	9887	60	Marcellus
29	12/12/2017	9518	9687	60	Marcellus
30	12/14/2017	9318	9486	60	Marcellus
31	12/15/2017	9118	9286	60	Marcellus
32	12/16/2017	8918	9086	60	Marcellus
33	12/17/2017	8717	8886	60	Marcellus
34	12/18/2017	8517	8686	60	Marcellus
35	12/19/2017	8317	8486	60	Marcellus
36	12/20/2017	8117	8286	60	Marcellus
37	12/21/2017	7917	8086	60	Marcellus
38	12/22/2017	7717	7886	60	Marcellus
39	12/23/2017	7517	7686	60	Marcellus
40	12/26/2017	7317	7486	60	Marcellus
41	12/27/2017	7117	7285	60	Marcellus
42	12/29/2017	6917	7085	60	Marcellus

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API 47-095-02287 Farm Name Terry L. Snider Well Number Tinker Unit 2H

EXHIBIT 2

Stage No.	Stimulations Date	Avg Pump Rate	Avg Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/ other (units)
1	11/24/2017	74.5	7105		2806	9911	10239.8	N/A
2	11/24/2017	74.6	7148	5789	2902	15839	10407.8	N/A
3	11/24/2017	74.2	7347	5860	3176	16383	10396.3	N/A
4	11/25/2017	72.6	7469	5565	4166	17200	11643.3	N/A
5	11/26/2017	61.1	7532	5590	4848	17970	10471.7	N/A
6	11/27/2017	69.6	7752	5382	4704	17838	18006.9	N/A
7	11/28/2017	69.9	7393	5308	3292	15993	10877.5	N/A
8	11/28/2017	74.8	7315	5354	3517	16186	10506.2	N/A
9	11/29/2017	73.7	7184	5287	3589	16060	10923.7	N/A
10	11/29/2017	70.3	6975	5319	3267	15561	10342.8	N/A
11	11/29/2017	74.2	6986	5145	3561	15692	10560.3	N/A
12	11/30/2017	76.5	7212	5201	4764	17177	11429.4	N/A
13	11/30/2017	77	7138	5492	3555	16185	10666.8	N/A
14	12/1/2017	68.6	6792	5449	3728	15969	11880.4	N/A
15	12/1/2017	70.3	6921	5122	3905	15948	12379	N/A
16	12/1/2017	72.1	7119	5074	4543	16736	12017.5	N/A
17	12/2/2017	64.9	6928	5527	6189	18644	8943.4	N/A
18	12/3/2017	67	6725	5338	3411	15474	10576	N/A
19	12/3/2017	72.2	7051	5190	3702	15943	10839.7	N/A
20	12/4/2017	71.2	7209	5217	3240	15666	13086	N/A
21	12/4/2017	75.3	6967	5250	3387	15604	11666	N/A
22	12/4/2017	70.1	6729	5364	3792	15885	10466.8	N/A
23	12/5/2017	72.5	6803	5287	4821	16911	10656.8	N/A
24	12/5/2017	75.5	6886	5557	3313	15756	10163	N/A
25	12/7/2017	70.5	7529	5212	4911	17652	13493.4	N/A
26	12/9/2017	57.8	7559	5086	4723	17368	17855.3	N/A
27	12/10/2017	68.1	7030	5276	3417	15723	12364.8	N/A
28	12/11/2017	62.9	6815	5136	3482	15433	17100.8	N/A
29	12/12/2017	70.3	7224	5007	4271	16502	11243.3	N/A
30	12/14/2017	78.7	6741	5080	3445	15266	10982.9	N/A
31	12/15/2017	81.2	7037	5253	3570	15860	10384.5	N/A
32	12/16/2017	80	6889	5328	4012	16229	10796.7	N/A
33	12/17/2017	80.2	6802	5324	3215	15341	10575.4	N/A
34	12/18/2017	80.6	6658	5627	3562	15847	10727.9	N/A
35	12/19/2017	77.6	6679	5436	3192	15307	10392.2	N/A
36	12/20/2017	78.5	6802	5266	3780	15848	10589.4	N/A
37	12/21/2017	79.5	6892	5344	3270	15506	11922.4	N/A
38	12/22/2017	77.2	6788	5365	3670	15823	12007.2	N/A
39	12/23/2017	78.7	7203	5480	5076	17759	17257.3	N/A
40	12/26/2017	76.9	6661	5483	4576	16720	12306.4	N/A
41	12/27/2017	79.3	6756	4927	5243	16926	11170.5	N/A
42	12/29/2017	78.6	6529	5184	3371	15084	16418.2	N/A
	AVG=	73.3	7,030	5,329	3,880	676,725	496,736	TOTAL

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EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Sandstone	0	N/A	0	N/A
Silyt Sandstone	260	N/A	260	N/A
Shale w/trace Coal	560	N/A	560	N/A
Silty Sandstone	740	N/A	740	N/A
Limey Shale	880	N/A	880	N/A
Silty Shale w/trace Coal	1,080	N/A	1,080	N/A
Silty Sandstone	1,240	N/A	1,240	N/A
Silty Shale w/trace Coal	1,380	N/A	1,380	N/A
Silty Sandstone	1,520	N/A	1,520	N/A
Sandstone w/trace Coal	1,600	N/A	1,600	N/A
Silty Sandstone	1,680	N/A	1,680	N/A
Shale w/trace Coal	1,740	N/A	1,740	N/A
Silty Sandstone	1,840	N/A	1,840	N/A
Big Lime	2,007	N/A	2,008	N/A
Big Injun	2,152	N/A	2,153	N/A
Gantz Sand	2,558	N/A	2,559	N/A
Fifty Foot Sandstone	2,848	N/A	2,849	N/A
Gordon	2,937	N/A	2,939	N/A
Fifth Sandstone	3,215	N/A	3,224	N/A
Bayard	3,284	N/A	3,295	N/A
Warren	3,671	N/A	3,709	N/A
Speechley	4,010	N/A	4,084	N/A
Balltown	4,297	N/A	4,403	N/A
Bradford	4,690	N/A	4,836	N/A
Benson	5,054	N/A	5,245	N/A
Alexander	5,295	N/A	5,507	N/A
Rhinestreet	5,853	N/A	6,121	N/A
Sycamore	6,191	N/A	6,524	N/A
Middlesex	6,285	N/A	6,661	N/A
Burkett	6,381	N/A	6,823	N/A
Tully	6,404	N/A	6,871	N/A
Marcellus	6,414	N/A	6,897	N/A

*Please note Antero determines formation tops based on mud logs that are only run on one well on a multi-well pad. The measured depth (MD) data on subsequent wells may be slightly different due to the well's unique departure.

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ANTERO RESOURCES CORPORATION

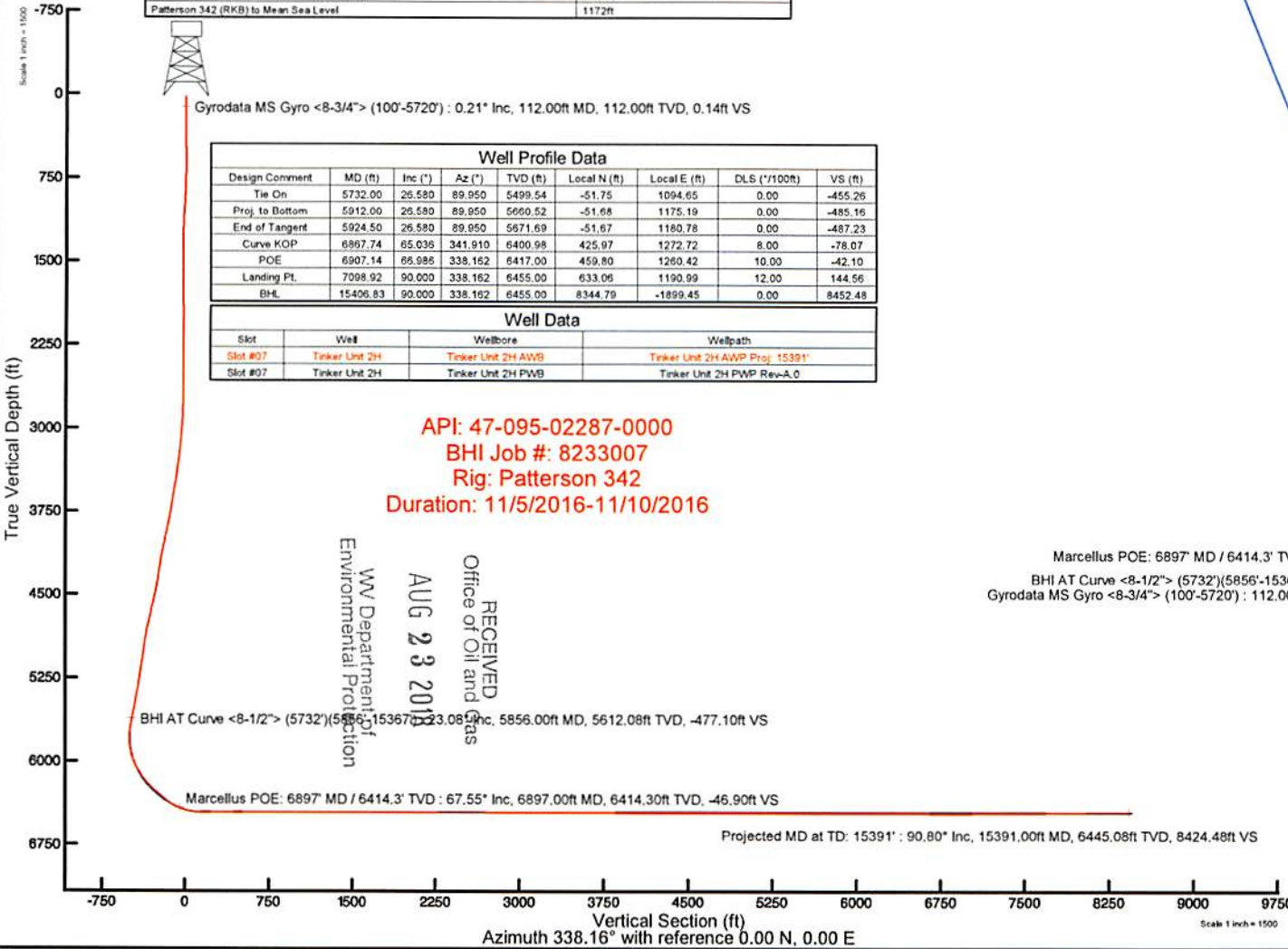
Location: Tyler County, WV
 Field: Tyler
 Facility: Terry Snider Pad

Slot: Slot #07
 Well: Tinker Unit 2H
 Wellbore: Tinker Unit 2H PWB



Plot reference wellpath is Tinker Unit 2H PWB Rev-A.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to Patterson 342 (RKB)	* = Wellpath was transformed from a different geoidic datum
Measured depths are referenced to Patterson 342 (RKB)	North Reference: Grid north
Patterson 342 (RKB) to Mean Sea Level: 1172 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: Slot #07): -1147 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: edaryan on 2016-11-12
	Database: WA_MPL_EASTERNUS_Defn

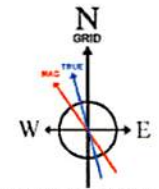
Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Terry Snider Pad	1650540.845	14295934.525	39°22'04.880"N	80°57'51.040"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Longitude
Slot #07	-18.21	8.65	1650549.490	14295916.320	39°22'04.700"N 80°57'50.930"W
Comment: Tinker Unit 2H					
Patterson 342 (RKB) to Mud line (At Slot: Slot #07)			25ft		
Mean Sea Level to Mud line (At Slot: Slot #07)			-1147ft		
Patterson 342 (RKB) to Mean Sea Level			1172ft		



API: 47-095-02287-0000
 BHI Job #: 8233007
 Rig: Patterson 342
 Duration: 11/5/2016-11/10/2016

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Marcellus POE: 6897' MD / 6414.3' TVD : 6414.30ft TVD, 453.39ft N, 1257.35ft E
 BHI AT Curve <8-1/2"> (5732')(5856'-15367') : 5612.08ft TVD, 54.46ft S, 1148.57ft E
 Gyrodata MS Gyro <8-3/4"> (100'-5720') : 112.00ft TVD, 0.10ft N, 0.12ft W



User specified Dip: 66.59° Field: 52032 nT
 Magnetic North is 7.76 degrees West of True North (at 11/2/2016)
 Grid North is 0.02 degrees East of True North
 To correct azimuth from True to Grid subtract 0.02 degrees
 To correct azimuth from Magnetic to Grid subtract 7.78 degrees



Actual Wellpath Report

Tinker Unit 2H AWP Proj: 15391'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	Tinker Unit 2H
Field	Tyler	Wellbore	Tinker Unit 2H AWB
Facility	Terry Snider Pad		

REPORT SETUP INFORMATION

Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Edsaryar
Scale	0.999600	Report Generated	11/12/2016 at 12:16:43 PM
Convergence at slot	0.03° East	Database/Source file	WA_MPL_EASTERNUS_Defn/Tinker_Unit_2H_AWP_Proj__15391_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-18.21	8.65	1650549.49	14295916.32	39°22'04.700"N	80°57'50.930"W
Facility Reference Pt			1650540.85	14295934.53	39°22'04.880"N	80°57'51.040"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM

Calculation method	Minimum curvature	Patterson 342 (RKB) to Facility Vertical Datum	25.00ft
Horizontal Reference Pt	Slot	Patterson 342 (RKB) to Mean Sea Level	1172.00ft
Vertical Reference Pt	Patterson 342 (RKB)	Patterson 342 (RKB) to Mud Line at Slot (Slot #07)	25.00ft
MD Reference Pt	Patterson 342 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	338.16°

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Actual Wellpath Report

Tinker Unit 2H AWP Proj: 15391'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	Tinker Unit 2H
Field	Tyler	Wellbore	Tinker Unit 2H AWB
Facility	Terry Snider Pad		

WELLPATH DATA (183 stations) † = interpolated/extrapolated station																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]	Comments
0.00†	0.000	308.840	0.00	0.00	0.00	0.00	1650549.49	14295916.32	39°22'04.700"N	80°57'50.930"W	0.00	0.000	0.00	0.00	0.00	
25.00	0.000	308.840	25.00	0.00	0.00	0.00	1650549.49	14295916.32	39°22'04.700"N	80°57'50.930"W	0.00	0.000	0.00	0.00	0.00	
112.00	0.210	308.840	112.00	0.14	0.10	-0.12	1650549.37	14295916.42	39°22'04.701"N	80°57'50.932"W	0.16	308.840	0.24	0.24	-58.80	Gyrodata MS Gyro <8-3/4"> (100'-5720')
212.00	0.130	334.310	212.00	0.41	0.32	-0.32	1650549.17	14295916.64	39°22'04.703"N	80°57'50.934"W	0.45	315.095	0.11	-0.08	25.47	
312.00	0.110	334.980	312.00	0.62	0.51	-0.41	1650549.08	14295916.83	39°22'04.705"N	80°57'50.935"W	0.65	321.286	0.02	-0.02	0.67	
412.00	0.100	338.150	412.00	0.80	0.67	-0.48	1650549.01	14295916.99	39°22'04.707"N	80°57'50.936"W	0.83	324.616	0.01	-0.01	3.17	
512.00	0.300	316.930	512.00	1.14	0.95	-0.69	1650548.80	14295917.27	39°22'04.709"N	80°57'50.939"W	1.17	323.902	0.21	0.20	-21.22	
612.00	0.960	254.870	611.99	1.48	0.92	-1.68	1650547.81	14295917.24	39°22'04.709"N	80°57'50.951"W	1.91	298.718	0.86	0.66	-62.06	
712.00	2.660	235.880	711.94	1.08	-0.60	-4.41	1650545.08	14295915.72	39°22'04.694"N	80°57'50.986"W	4.45	262.233	1.78	1.70	-18.99	
812.00	3.700	222.960	811.79	-0.79	-4.26	-8.53	1650540.97	14295912.06	39°22'04.658"N	80°57'51.039"W	9.53	243.433	1.26	1.04	-12.92	
912.00	4.420	207.140	911.54	-4.69	-10.05	-12.48	1650537.01	14295906.27	39°22'04.601"N	80°57'51.089"W	16.03	231.152	1.32	0.72	-15.82	
1012.00	4.700	200.130	1011.22	-10.26	-17.33	-15.65	1650533.84	14295899.00	39°22'04.529"N	80°57'51.129"W	23.35	222.087	0.62	0.28	-7.01	
1112.00	2.840	175.820	1111.01	-15.67	-23.65	-16.88	1650532.61	14295892.68	39°22'04.466"N	80°57'51.145"W	29.06	215.521	2.41	-1.86	-24.31	
1212.00	1.820	143.340	1210.93	-19.57	-27.39	-15.75	1650533.74	14295888.94	39°22'04.429"N	80°57'51.131"W	31.60	209.901	1.63	-1.02	-32.48	
1312.00	1.250	115.680	1310.89	-21.91	-29.14	-13.82	1650535.67	14295887.19	39°22'04.412"N	80°57'51.106"W	32.25	205.376	0.92	-0.57	-27.66	
1412.00	0.900	63.090	1410.88	-22.64	-29.26	-12.14	1650537.36	14295887.07	39°22'04.411"N	80°57'51.085"W	31.68	202.533	1.00	-0.35	-52.59	
1512.00	0.680	334.540	1510.87	-21.98	-28.37	-11.69	1650537.80	14295887.96	39°22'04.420"N	80°57'51.079"W	30.68	202.403	1.11	-0.22	-88.55	
1612.00	0.970	295.740	1610.86	-20.76	-27.46	-12.71	1650536.78	14295888.87	39°22'04.429"N	80°57'51.092"W	30.26	204.836	0.61	0.29	-38.80	
1712.00	0.590	261.790	1710.85	-20.02	-27.17	-13.98	1650535.51	14295889.16	39°22'04.431"N	80°57'51.108"W	30.56	207.233	0.58	-0.38	-33.95	
1812.00	0.380	26.320	1810.85	-19.67	-26.95	-14.35	1650535.15	14295889.39	39°22'04.434"N	80°57'51.113"W	30.53	208.030	0.86	-0.21	124.53	
1912.00	2.170	46.450	1910.82	-18.75	-25.34	-12.83	1650536.67	14295890.99	39°22'04.450"N	80°57'51.093"W	28.40	206.844	1.82	1.79	20.13	
2012.00	1.690	45.970	2010.76	-17.50	-23.01	-10.39	1650539.10	14295893.31	39°22'04.473"N	80°57'51.062"W	25.25	204.305	0.48	-0.48	-0.48	
2112.00	1.100	38.240	2110.73	-16.46	-21.24	-8.74	1650540.75	14295895.09	39°22'04.490"N	80°57'51.041"W	22.96	202.370	0.62	-0.59	-7.73	
2212.00	0.870	32.810	2210.72	-15.54	-19.84	-7.73	1650541.76	14295896.48	39°22'04.504"N	80°57'51.029"W	21.30	201.293	0.25	-0.23	-5.43	
2312.00	0.490	356.460	2310.71	-14.70	-18.78	-7.35	1650542.14	14295897.55	39°22'04.514"N	80°57'51.024"W	20.17	201.373	0.56	-0.38	-36.35	
2412.00	0.860	236.750	2410.71	-14.44	-18.76	-8.00	1650541.49	14295897.56	39°22'04.515"N	80°57'51.032"W	20.40	203.099	1.18	0.37	-119.71	
2512.00	0.790	217.100	2510.70	-14.94	-19.72	-9.05	1650540.45	14295896.60	39°22'04.505"N	80°57'51.045"W	21.70	204.638	0.29	-0.07	-19.65	
2612.00	0.730	203.540	2610.69	-15.75	-20.86	-9.72	1650539.78	14295895.47	39°22'04.494"N	80°57'51.054"W	23.01	204.978	0.19	-0.06	-13.56	
2712.00	1.910	95.650	2710.67	-16.96	-21.61	-8.31	1650541.18	14295894.72	39°22'04.486"N	80°57'51.036"W	23.15	201.043	2.24	1.18	-107.89	
2812.00	5.190	90.080	2810.46	-19.42	-21.78	-2.13	1650547.36	14295894.55	39°22'04.485"N	80°57'50.957"W	21.88	185.585	3.29	3.28	-5.57	

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Tinker Unit 2H AWP Proj: 15391'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	Tinker Unit 2H
Field	Tyler	Wellbore	Tinker Unit 2H AWP
Facility	Terry Snider Pad		

WELLPATH DATA (183 stations)																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]	Comments
2912.00	6.750	94.210	2909.92	-23.69	-22.21	8.26	1650557.74	14295894.11	39°22'04.480"N	80°57'50.825"W	23.70	159.615	1.62	1.56	4.13	
3012.00	10.050	95.730	3008.83	-30.31	-23.52	22.80	1650572.28	14295892.81	39°22'04.467"N	80°57'50.640"W	32.76	135.885	3.31	3.30	1.52	
3112.00	12.200	93.310	3106.95	-38.84	-25.00	42.03	1650591.51	14295891.33	39°22'04.453"N	80°57'50.395"W	48.91	120.741	2.20	2.15	-2.42	
3212.00	14.770	94.620	3204.18	-49.01	-26.64	65.29	1650614.76	14295889.69	39°22'04.436"N	80°57'50.099"W	70.52	112.193	2.59	2.57	1.31	
3312.00	16.060	93.730	3300.58	-60.66	-28.56	91.80	1650641.26	14295887.77	39°22'04.417"N	80°57'49.761"W	96.14	107.283	1.31	1.29	-0.89	
3412.00	18.650	92.260	3396.02	-73.17	-30.09	121.59	1650671.03	14295886.24	39°22'04.402"N	80°57'49.382"W	125.26	103.902	2.63	2.59	-1.47	
3512.00	21.120	94.550	3490.06	-87.71	-32.15	155.53	1650704.96	14295884.18	39°22'04.382"N	80°57'48.950"W	158.82	101.681	2.59	2.47	2.29	
3612.00	24.040	88.720	3582.39	-102.87	-33.13	193.87	1650743.28	14295883.21	39°22'04.372"N	80°57'48.462"W	196.68	99.697	3.68	2.92	-5.83	
3712.00	25.670	87.050	3673.13	-117.04	-31.56	235.86	1650785.26	14295884.77	39°22'04.387"N	80°57'47.927"W	237.97	97.621	1.77	1.63	-1.67	
3812.00	23.320	92.370	3764.13	-132.17	-31.26	277.28	1650826.66	14295885.07	39°22'04.390"N	80°57'47.400"W	279.04	96.433	3.22	-2.35	5.32	
3912.00	24.820	94.960	3855.44	-149.75	-33.90	317.97	1650867.33	14295882.44	39°22'04.364"N	80°57'46.882"W	319.77	96.085	1.83	1.50	2.59	
4012.00	26.420	94.030	3945.60	-168.92	-37.27	361.08	1650910.42	14295879.06	39°22'04.330"N	80°57'46.333"W	362.99	95.894	1.65	1.60	-0.93	
4112.00	27.670	92.960	4034.67	-188.37	-40.04	406.46	1650955.79	14295876.30	39°22'04.303"N	80°57'45.755"W	408.43	95.626	1.34	1.25	-1.07	
4212.00	25.650	89.390	4124.04	-205.95	-41.01	451.30	1651000.60	14295875.33	39°22'04.293"N	80°57'45.184"W	453.16	95.192	2.58	-2.02	-3.57	
4312.00	25.400	88.650	4214.28	-221.30	-40.27	494.38	1651043.67	14295876.07	39°22'04.300"N	80°57'44.635"W	496.02	94.657	0.41	-0.25	-0.74	
4412.00	23.680	87.800	4305.24	-235.55	-38.99	535.89	1651085.16	14295877.34	39°22'04.312"N	80°57'44.107"W	537.31	94.162	1.76	-1.72	-0.85	
4512.00	24.180	90.870	4396.65	-250.21	-38.53	576.44	1651125.70	14295877.80	39°22'04.317"N	80°57'43.591"W	577.72	93.824	1.34	0.50	3.07	
4612.00	24.400	96.560	4487.81	-267.94	-41.20	617.44	1651166.68	14295875.13	39°22'04.290"N	80°57'43.069"W	618.81	93.818	2.35	0.22	5.69	
4712.00	25.030	98.280	4578.65	-288.38	-46.61	658.90	1651208.12	14295869.73	39°22'04.237"N	80°57'42.541"W	660.54	94.046	0.96	0.63	1.72	
4812.00	25.260	94.550	4669.18	-308.49	-51.35	701.10	1651250.31	14295864.99	39°22'04.190"N	80°57'42.003"W	702.98	94.189	1.60	0.23	-3.73	
4912.00	30.020	94.280	4757.74	-328.99	-54.91	747.34	1651296.53	14295861.43	39°22'04.154"N	80°57'41.415"W	749.36	94.202	4.76	4.76	-0.27	
5012.00	28.930	88.090	4844.82	-348.26	-55.97	796.47	1651345.64	14295860.37	39°22'04.144"N	80°57'40.789"W	798.44	94.020	3.23	-1.09	-6.19	
5112.00	26.070	84.590	4933.51	-362.72	-53.09	842.54	1651391.69	14295863.25	39°22'04.172"N	80°57'40.203"W	844.21	93.606	3.28	-2.86	-3.50	
5212.00	24.530	87.650	5023.92	-375.86	-50.17	885.16	1651434.29	14295866.17	39°22'04.200"N	80°57'39.660"W	886.58	93.244	2.02	-1.54	3.06	
5312.00	24.830	88.940	5114.79	-390.24	-48.93	926.89	1651476.01	14295867.41	39°22'04.213"N	80°57'39.128"W	928.18	93.022	0.62	0.30	1.29	
5412.00	22.040	88.000	5206.53	-404.06	-47.89	966.64	1651515.74	14295868.45	39°22'04.223"N	80°57'38.622"W	967.83	92.836	2.81	-2.79	-0.94	
5512.00	21.120	93.410	5299.53	-418.11	-48.30	1003.38	1651552.47	14295868.03	39°22'04.218"N	80°57'38.154"W	1004.55	92.756	2.19	-0.92	5.41	
5612.00	24.530	93.760	5391.69	-434.77	-50.74	1042.09	1651591.16	14295865.60	39°22'04.194"N	80°57'37.662"W	1043.33	92.787	3.41	3.41	0.35	
5712.00	27.130	89.270	5481.70	-451.96	-51.81	1085.62	1651634.67	14295864.53	39°22'04.183"N	80°57'37.107"W	1086.85	92.732	3.25	2.60	-4.49	
5732.00	26.580	89.950	5499.54	-455.26	-51.75	1094.65	1651643.70	14295864.59	39°22'04.184"N	80°57'36.992"W	1095.87	92.707	3.15	-2.75	3.40	

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Tinker Unit 2H AWP Proj: 15391'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	Tinker Unit 2H
Field	Tyler	Wellbore	Tinker Unit 2H AWB
Facility	Terry Snider Pad		

WELLPATH DATA (183 stations) † = interpolated/extrapolated station																
MD	Inclination	Azimuth	TVD	Vert	North	East	Grid East	Grid North	Latitude	Longitude	Closure	Closure	DLS	Build	Turn	Comments
[ft]	[°]	[°]	[ft]	Sect	[ft]	[ft]	[US ft]	[US ft]			Dist	Dir	["/100ft]	Rate	Rate	
				[ft]							[ft]	[°]		["/100ft]	["/100ft]	
5856.00	23.080	96.470	5612.08	-477.10	-54.46	1146.57	1651695.60	14295861.88	39°22'04.157"N	80°57'36.331"W	1147.86	92.720	3.58	-2.82	5.26	BHI AT Curve <8-1/2"> (5732')(5856'-15367')
5872.00	23.030	96.640	5626.80	-480.08	-55.18	1152.79	1651701.82	14295861.16	39°22'04.150"N	80°57'36.252"W	1154.11	92.740	0.52	-0.31	1.06	
5917.00	23.100	95.290	5668.21	-488.30	-57.01	1170.33	1651719.35	14295859.33	39°22'04.132"N	80°57'36.029"W	1171.72	92.789	1.19	0.16	-3.00	
5964.00	25.400	86.010	5711.07	-495.60	-57.16	1189.57	1651738.59	14295859.18	39°22'04.130"N	80°57'35.784"W	1190.95	92.751	9.46	4.89	-19.74	
6011.00	25.430	74.570	5753.55	-499.82	-53.77	1209.37	1651758.37	14295862.57	39°22'04.163"N	80°57'35.532"W	1210.56	92.546	10.43	0.06	-24.34	
6059.00	25.520	66.210	5796.90	-500.61	-46.86	1228.77	1651777.77	14295869.48	39°22'04.232"N	80°57'35.285"W	1229.66	92.184	7.49	0.19	-17.42	
6103.00	25.660	58.420	5836.59	-498.68	-38.04	1245.56	1651794.55	14295878.29	39°22'04.319"N	80°57'35.071"W	1246.14	91.749	7.65	0.32	-17.70	
6153.00	25.520	48.620	5881.71	-493.24	-25.25	1262.88	1651811.86	14295891.08	39°22'04.445"N	80°57'34.850"W	1263.13	91.145	8.46	-0.28	-19.60	
6200.00	25.770	40.020	5924.09	-485.04	-10.72	1277.05	1651826.02	14295905.60	39°22'04.589"N	80°57'34.670"W	1277.09	90.481	7.93	0.53	-18.30	
6247.00	27.990	29.440	5966.04	-473.31	6.72	1289.05	1651838.02	14295923.04	39°22'04.761"N	80°57'34.517"W	1289.06	89.701	11.20	4.72	-22.51	
6293.00	30.980	19.490	6006.10	-457.66	27.30	1298.31	1651847.28	14295943.61	39°22'04.964"N	80°57'34.399"W	1298.60	88.796	12.45	6.50	-21.63	
6343.00	33.510	12.400	6048.40	-436.57	52.92	1305.57	1651854.54	14295969.22	39°22'05.218"N	80°57'34.306"W	1306.64	87.679	9.09	5.06	-14.18	
6386.00	35.010	8.930	6083.94	-416.16	76.70	1310.04	1651859.00	14295992.99	39°22'05.453"N	80°57'34.249"W	1312.28	86.649	5.73	3.49	-8.07	
6436.00	37.750	4.380	6124.20	-390.09	106.14	1313.43	1651862.39	14296022.42	39°22'05.744"N	80°57'34.206"W	1317.71	85.380	7.69	5.48	-9.10	
6482.00	41.060	359.190	6159.75	-363.34	135.31	1314.29	1651863.26	14296051.57	39°22'06.032"N	80°57'34.195"W	1321.24	84.122	10.15	7.20	-11.28	
6524.00†	43.257	355.546	6190.88	-336.73	163.45	1312.98	1651861.94	14296079.71	39°22'06.310"N	80°57'34.211"W	1323.12	82.904	7.83	5.23	-8.68	Sycamore: 6524' MD / 6190.9' TVD
6530.00	43.580	355.050	6195.24	-332.79	167.56	1312.64	1651861.61	14296083.82	39°22'06.351"N	80°57'34.216"W	1323.30	82.725	7.83	5.38	-8.27	
6577.00	46.110	352.920	6228.57	-300.90	200.52	1309.16	1651858.12	14296116.76	39°22'06.676"N	80°57'34.260"W	1324.42	81.292	6.26	5.38	-4.53	
6625.00	48.660	351.070	6261.06	-266.61	235.49	1304.23	1651853.19	14296151.71	39°22'07.022"N	80°57'34.322"W	1325.32	79.765	6.02	5.31	-3.85	
6661.00†	50.069	350.392	6284.51	-239.94	262.45	1299.83	1651848.79	14296178.66	39°22'07.288"N	80°57'34.378"W	1326.06	78.585	4.17	3.91	-1.88	Middlesex: 6661' MD / 6284.5' TVD
6672.00	50.500	350.190	6291.54	-231.67	270.79	1298.40	1651847.37	14296187.00	39°22'07.371"N	80°57'34.396"W	1326.34	78.219	4.17	3.92	-1.83	
6719.00	51.380	350.000	6321.15	-195.96	306.74	1292.12	1651841.09	14296222.94	39°22'07.726"N	80°57'34.476"W	1328.03	76.646	1.90	1.87	-0.40	
6766.00	53.750	349.680	6349.72	-159.42	343.47	1285.54	1651834.51	14296259.65	39°22'08.089"N	80°57'34.560"W	1330.63	75.041	5.07	5.04	-0.68	
6813.00	58.090	347.460	6376.05	-121.14	381.61	1277.81	1651826.78	14296297.78	39°22'08.466"N	80°57'34.658"W	1333.57	73.372	10.03	9.23	-4.72	
6823.00†	59.234	346.610	6381.25	-112.70	389.94	1275.89	1651824.87	14296306.10	39°22'08.549"N	80°57'34.682"W	1334.14	73.006	13.55	11.44	-8.50	Burket: 6823' MD / 6381.3' TVD
6860.00	63.510	343.630	6398.98	-80.48	421.31	1267.54	1651816.52	14296337.46	39°22'08.859"N	80°57'34.788"W	1335.72	71.614	13.55	11.56	-8.05	
6871.00†	64.707	342.889	6403.78	-70.62	430.78	1264.69	1651813.67	14296346.93	39°22'08.952"N	80°57'34.825"W	1336.04	71.190	12.46	10.89	-6.74	Tully: 6871' MD / 6403.8' TVD
6897.00†	67.551	341.193	6414.30	-46.90	453.39	1257.35	1651806.34	14296369.53	39°22'09.176"N	80°57'34.918"W	1336.60	70.171	12.46	10.94	-6.52	Marcellus POE: 6897' MD / 6414.3' TVD
6907.00	68.650	340.560	6418.03	-37.63	462.16	1254.31	1651803.30	14296378.30	39°22'09.263"N	80°57'34.957"W	1336.75	69.773	12.46	10.99	-6.33	
6954.00	74.490	340.300	6432.89	6.90	504.16	1239.38	1651788.37	14296420.27	39°22'09.678"N	80°57'35.146"W	1338.00	67.864	12.44	12.43	-0.55	

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Area	Tyler County, WV	Well	Tinker Unit 2H
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WELLPATH DATA (183 stations)																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
7002.00	79.170	340.230	6443.82	53.59	548.14	1223.60	1651772.60	14296464.24	39°22'10.112"N	80°57'35.347"W	1340.77	65.869	9.75	9.75	-0.15	
7046.00	82.870	340.240	6450.69	97.02	589.03	1208.91	1651757.91	14296505.11	39°22'10.517"N	80°57'35.534"W	1344.77	64.023	8.41	8.41	0.02	
7096.00	86.860	339.250	6455.16	146.79	635.74	1191.67	1651740.68	14296551.80	39°22'10.978"N	80°57'35.753"W	1350.65	61.921	8.22	7.98	-1.98	
7130.00	90.890	338.490	6455.83	180.77	667.44	1179.42	1651728.44	14296583.49	39°22'11.292"N	80°57'35.909"W	1355.18	60.494	12.06	11.85	-2.24	
7190.00	90.920	336.180	6454.88	240.75	722.80	1156.30	1651705.33	14296638.82	39°22'11.839"N	80°57'36.203"W	1363.62	57.991	3.85	0.05	-3.85	
7285.00	90.000	329.330	6454.12	335.27	807.20	1112.84	1651661.88	14296723.20	39°22'12.673"N	80°57'36.756"W	1374.77	54.045	7.27	-0.97	-7.21	
7379.00	89.080	327.560	6454.87	427.92	887.30	1063.65	1651612.71	14296803.26	39°22'13.465"N	80°57'37.382"W	1385.15	50.165	2.12	-0.98	-1.88	
7473.00	90.830	330.770	6454.95	520.74	968.00	1015.48	1651564.56	14296883.93	39°22'14.263"N	80°57'37.995"W	1402.93	46.371	3.89	1.86	3.41	
7567.00	91.140	336.860	6453.33	614.42	1052.30	974.03	1651523.12	14296968.19	39°22'15.096"N	80°57'38.522"W	1433.89	42.788	6.49	0.33	6.48	
7661.00	91.170	334.420	6451.43	708.30	1137.90	935.26	1651484.38	14297053.77	39°22'15.943"N	80°57'39.015"W	1472.94	39.417	2.60	0.03	-2.60	
7755.00	90.000	336.780	6450.47	802.19	1223.50	896.44	1651445.57	14297139.32	39°22'16.789"N	80°57'39.509"W	1516.75	36.230	2.80	-1.24	2.51	
7849.00	89.820	339.840	6450.62	896.18	1310.83	861.70	1651410.84	14297226.62	39°22'17.652"N	80°57'39.951"W	1568.69	33.320	3.26	-0.19	3.26	
7944.00	89.880	343.200	6450.87	991.00	1400.92	831.59	1651380.75	14297316.67	39°22'18.543"N	80°57'40.334"W	1629.15	30.694	3.54	0.06	3.54	
8038.00	90.120	343.360	6450.87	1084.63	1490.94	804.55	1651353.72	14297406.66	39°22'19.433"N	80°57'40.678"W	1694.17	28.352	0.31	0.26	0.17	
8132.00	90.030	343.290	6450.75	1178.25	1580.99	777.58	1651326.75	14297496.68	39°22'20.323"N	80°57'41.021"W	1761.86	26.189	0.12	-0.10	-0.07	
8227.00	89.910	344.910	6450.80	1272.73	1672.35	751.55	1651300.74	14297588.00	39°22'21.226"N	80°57'41.352"W	1833.47	24.199	1.71	-0.13	1.71	
8321.00	89.940	343.460	6450.92	1366.21	1762.79	725.93	1651275.13	14297678.40	39°22'22.120"N	80°57'41.677"W	1906.41	22.382	1.54	0.03	-1.54	
8416.00	90.060	339.360	6450.92	1461.04	1852.82	695.66	1651244.87	14297768.39	39°22'23.010"N	80°57'42.062"W	1979.11	20.579	4.32	0.13	-4.32	
8510.00	89.820	338.870	6451.02	1555.02	1940.64	662.15	1651211.37	14297856.18	39°22'23.878"N	80°57'42.489"W	2050.49	18.840	0.58	-0.26	-0.52	
8604.00	89.940	340.390	6451.21	1648.99	2028.76	629.43	1651178.66	14297944.26	39°22'24.749"N	80°57'42.905"W	2124.16	17.237	1.62	0.13	1.62	
8699.00	89.940	343.780	6451.31	1743.75	2119.14	600.21	1651149.46	14298034.61	39°22'25.642"N	80°57'43.276"W	2202.50	15.814	3.57	0.00	3.57	
8793.00	90.280	341.870	6451.13	1837.44	2208.94	572.45	1651121.71	14298124.38	39°22'26.530"N	80°57'43.629"W	2281.91	14.529	2.06	0.36	-2.03	
8887.00	90.000	339.880	6450.90	1931.33	2297.75	541.66	1651090.93	14298213.15	39°22'27.408"N	80°57'44.021"W	2360.73	13.264	2.14	-0.30	-2.12	
8981.00	89.850	342.690	6451.03	2025.18	2386.77	511.50	1651060.78	14298302.13	39°22'28.288"N	80°57'44.405"W	2440.96	12.096	2.99	-0.16	2.99	
9075.00	90.150	341.030	6451.03	2118.98	2476.10	482.23	1651031.53	14298391.42	39°22'29.171"N	80°57'44.777"W	2522.62	11.021	1.79	0.32	-1.77	
9170.00	90.590	337.860	6450.41	2213.94	2565.03	448.88	1650998.19	14298480.32	39°22'30.050"N	80°57'45.201"W	2604.02	9.926	3.37	0.46	-3.34	
9264.00	89.940	337.320	6449.98	2307.93	2651.93	413.05	1650962.37	14298567.19	39°22'30.909"N	80°57'45.657"W	2683.91	8.853	0.90	-0.69	-0.57	
9358.00	90.030	336.400	6450.00	2401.91	2738.37	376.11	1650925.45	14298653.59	39°22'31.763"N	80°57'46.127"W	2764.08	7.821	0.98	0.10	-0.98	
9452.00	90.220	335.470	6449.80	2495.84	2824.20	337.78	1650887.13	14298739.38	39°22'32.612"N	80°57'46.614"W	2844.33	6.820	1.01	0.20	-0.99	
9545.00	89.880	335.410	6449.72	2588.73	2908.78	299.12	1650848.49	14298823.94	39°22'33.448"N	80°57'47.106"W	2924.12	5.871	0.37	-0.37	-0.06	

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Actual Wellpath Report

Tinker Unit 2H AWP Proj: 15391'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	Tinker Unit 2H
Field	Tyler	Wellbore	Tinker Unit 2H AWB
Facility	Terry Snider Pad		

WELLPATH DATA (183 stations)																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]	Comments
9639.00	89.820	335.050	6449.96	2682.61	2994.14	259.74	1650809.13	14298909.25	39°22'34.292"N	80°57'47.607"W	3005.38	4.958	0.39	-0.06	-0.38	
9733.00	89.780	335.990	6450.29	2776.51	3079.68	220.79	1650770.19	14298994.77	39°22'35.137"N	80°57'48.103"W	3087.59	4.101	1.00	-0.04	1.00	
9828.00	89.970	334.720	6450.50	2871.39	3166.03	181.18	1650730.59	14299081.08	39°22'35.991"N	80°57'48.607"W	3171.21	3.275	1.35	0.20	-1.34	
9922.00	89.940	337.040	6450.57	2965.31	3251.82	142.77	1650692.20	14299166.83	39°22'36.839"N	80°57'49.096"W	3254.95	2.514	2.47	-0.03	2.47	
10016.00	89.750	336.980	6450.83	3059.29	3338.35	106.05	1650655.50	14299253.33	39°22'37.694"N	80°57'49.563"W	3340.03	1.820	0.21	-0.20	-0.06	
10111.00	89.780	336.970	6451.22	3154.27	3425.78	68.90	1650618.36	14299340.72	39°22'38.559"N	80°57'50.035"W	3426.47	1.152	0.03	0.03	-0.01	
10205.00	89.690	337.160	6451.65	3248.25	3512.35	32.27	1650581.74	14299427.26	39°22'39.414"N	80°57'50.501"W	3512.50	0.526	0.22	-0.10	0.20	
10299.00	89.540	335.960	6452.28	3342.21	3598.59	-5.13	1650544.37	14299513.46	39°22'40.267"N	80°57'50.977"W	3598.59	359.918	1.29	-0.16	-1.28	
10393.00	89.720	336.660	6452.89	3436.16	3684.66	-42.89	1650506.61	14299599.50	39°22'41.118"N	80°57'51.458"W	3684.91	359.333	0.77	0.19	0.74	
10488.00	89.750	337.480	6453.33	3531.14	3772.16	-79.90	1650469.62	14299686.96	39°22'41.983"N	80°57'51.928"W	3773.00	358.787	0.86	0.03	0.86	
10582.00	89.630	340.080	6453.84	3625.13	3859.77	-113.92	1650435.61	14299774.54	39°22'42.849"N	80°57'52.361"W	3861.45	358.309	2.77	-0.13	2.77	
10677.00	89.780	340.830	6454.33	3720.05	3949.30	-145.71	1650403.84	14299864.03	39°22'43.734"N	80°57'52.766"W	3951.98	357.887	0.81	0.16	0.79	
10771.00	89.720	340.750	6454.74	3813.95	4038.06	-176.63	1650372.93	14299952.76	39°22'44.611"N	80°57'53.159"W	4041.92	357.495	0.11	-0.06	-0.09	
10865.00	89.600	342.640	6455.29	3907.76	4127.30	-206.16	1650343.42	14300041.96	39°22'45.493"N	80°57'53.534"W	4132.45	357.140	2.01	-0.13	2.01	
10959.00	89.630	343.090	6455.93	4001.44	4217.13	-233.85	1650315.73	14300131.75	39°22'46.381"N	80°57'53.887"W	4223.60	356.826	0.48	0.03	0.48	
11054.00	89.570	340.030	6456.59	4096.26	4307.24	-263.89	1650285.70	14300221.82	39°22'47.272"N	80°57'54.269"W	4315.31	356.494	3.22	-0.06	-3.22	
11148.00	89.600	337.990	6457.27	4190.24	4394.99	-297.56	1650252.05	14300309.54	39°22'48.139"N	80°57'54.697"W	4405.05	356.127	2.17	0.03	-2.17	
11243.00	90.090	337.840	6457.53	4285.24	4483.02	-333.28	1650216.34	14300397.54	39°22'49.010"N	80°57'55.152"W	4495.39	355.748	0.54	0.52	-0.16	
11337.00	89.780	338.300	6457.63	4379.24	4570.22	-368.39	1650181.25	14300484.70	39°22'49.871"N	80°57'55.598"W	4585.04	355.392	0.59	-0.33	0.49	
11431.00	90.000	342.670	6457.82	4473.14	4658.80	-399.78	1650149.87	14300573.24	39°22'50.747"N	80°57'55.998"W	4675.92	355.095	4.65	0.23	4.65	
11525.00	89.780	342.870	6458.00	4566.84	4748.58	-427.62	1650122.04	14300662.99	39°22'51.635"N	80°57'56.352"W	4767.79	354.854	0.32	-0.23	0.21	
11619.00	89.850	340.490	6458.30	4660.65	4837.81	-457.17	1650092.51	14300752.18	39°22'52.517"N	80°57'56.728"W	4859.36	354.602	2.53	0.07	-2.53	
11713.00	90.770	343.910	6457.79	4754.40	4927.29	-485.90	1650063.79	14300841.63	39°22'53.401"N	80°57'57.093"W	4951.19	354.368	3.77	0.98	3.64	
11807.00	89.940	341.180	6457.21	4848.12	5016.95	-514.09	1650035.61	14300931.26	39°22'54.287"N	80°57'57.452"W	5043.22	354.149	3.04	-0.88	-2.90	
11902.00	89.940	338.370	6457.31	4943.07	5106.08	-546.93	1650002.78	14301020.35	39°22'55.168"N	80°57'57.869"W	5135.29	353.886	2.96	0.00	-2.96	
11996.00	90.000	336.400	6457.36	5037.06	5192.85	-583.08	1649966.65	14301107.09	39°22'56.026"N	80°57'58.329"W	5225.49	353.593	2.10	0.06	-2.10	
12090.00	90.030	333.050	6457.33	5130.87	5277.84	-623.20	1649926.54	14301192.04	39°22'56.866"N	80°57'58.840"W	5314.51	353.266	3.56	0.03	-3.56	
12184.00	89.940	332.210	6457.36	5224.44	5361.32	-666.42	1649883.34	14301275.48	39°22'57.691"N	80°57'59.390"W	5402.58	352.914	0.90	-0.10	-0.89	
12278.00	90.000	332.280	6457.41	5317.93	5444.50	-710.19	1649839.58	14301358.64	39°22'58.514"N	80°57'59.947"W	5490.63	352.568	0.10	0.06	0.07	
12373.00	89.910	331.870	6457.48	5412.40	5528.44	-754.68	1649795.11	14301442.54	39°22'59.344"N	80°58'00.513"W	5579.71	352.227	0.44	-0.09	-0.43	



Actual Wellpath Report

Tinker Unit 2H AWP Proj: 15391'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	Tinker Unit 2H
Field	Tyler	Wellbore	Tinker Unit 2H AWB
Facility	Terry Snider Pad		

WELLPATH DATA (183 stations)																	
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments	
12467.00	89.970	332.250	6457.58	5505.87	5611.48	-798.73	1649751.08	14301525.55	39°23'00.165"N	80°58'01.074"W	5668.04	351.899	0.41	0.06	0.40		
12561.00	89.940	334.630	6457.65	5599.54	5695.56	-840.75	1649709.07	14301609.59	39°23'00.996"N	80°58'01.609"W	5757.28	351.603	2.53	-0.03	2.53		
12655.00	89.910	335.840	6457.78	5693.42	5780.91	-880.13	1649669.71	14301694.91	39°23'01.839"N	80°58'02.110"W	5847.53	351.343	1.29	-0.03	1.29		
12750.00	89.750	335.390	6458.06	5788.32	5867.44	-919.35	1649630.51	14301781.40	39°23'02.695"N	80°58'02.609"W	5939.03	351.095	0.50	-0.17	-0.47		
12844.00	89.750	336.570	6458.47	5882.25	5953.29	-957.61	1649592.26	14301867.22	39°23'03.543"N	80°58'03.096"W	6029.82	350.862	1.26	0.00	1.26		
12938.00	89.820	339.970	6458.82	5976.24	6040.60	-992.41	1649557.48	14301954.49	39°23'04.406"N	80°58'03.538"W	6121.58	350.670	3.62	0.07	3.62		
13032.00	89.880	340.670	6459.07	6070.17	6129.11	-1024.07	1649525.84	14302042.97	39°23'05.281"N	80°58'03.941"W	6214.07	350.515	0.75	0.06	0.74		
13126.00	89.910	340.740	6459.24	6164.08	6217.83	-1055.13	1649494.79	14302131.65	39°23'06.158"N	80°58'04.336"W	6306.72	350.369	0.08	0.03	0.07		
13220.00	89.910	341.910	6459.39	6257.93	6306.88	-1085.23	1649464.70	14302220.66	39°23'07.038"N	80°58'04.719"W	6399.56	350.237	1.24	0.00	1.24		
13314.00	89.820	342.450	6459.61	6351.70	6396.37	-1113.99	1649435.95	14302310.12	39°23'07.923"N	80°58'05.085"W	6492.65	350.120	0.58	-0.10	0.57		
13408.00	89.940	341.710	6459.80	6445.48	6485.81	-1142.91	1649407.04	14302399.52	39°23'08.807"N	80°58'05.453"W	6585.74	350.006	0.80	0.13	-0.79		
13503.00	89.970	340.560	6459.88	6540.35	6575.70	-1173.63	1649376.33	14302489.38	39°23'09.696"N	80°58'05.844"W	6679.62	349.880	1.21	0.03	-1.21		
13597.00	89.880	339.740	6460.00	6634.29	6664.12	-1205.55	1649344.43	14302577.76	39°23'10.570"N	80°58'06.250"W	6772.28	349.746	0.88	-0.10	-0.87		
13691.00	90.030	339.020	6460.08	6728.27	6752.09	-1238.65	1649311.34	14302665.70	39°23'11.439"N	80°58'06.671"W	6864.77	349.605	0.78	0.16	-0.77		
13786.00	89.850	338.360	6460.18	6823.27	6840.60	-1273.18	1649276.82	14302754.17	39°23'12.314"N	80°58'07.111"W	6958.07	349.457	0.72	-0.19	-0.69		
13880.00	89.970	337.850	6460.32	6917.26	6927.82	-1308.23	1649241.79	14302841.35	39°23'13.176"N	80°58'07.557"W	7050.26	349.306	0.56	0.13	-0.54		
13974.00	90.250	336.870	6460.14	7011.25	7014.57	-1344.41	1649205.62	14302928.07	39°23'14.034"N	80°58'08.017"W	7142.25	349.150	1.08	0.30	-1.04		
14068.00	90.120	342.420	6459.84	7105.19	7102.67	-1377.10	1649172.95	14303016.13	39°23'14.905"N	80°58'08.433"W	7234.94	349.027	5.91	-0.14	5.90		
14162.00	89.850	341.980	6459.86	7198.95	7192.17	-1405.83	1649144.22	14303105.60	39°23'15.789"N	80°58'08.799"W	7328.28	348.940	0.55	-0.29	-0.47		
14256.00	90.250	342.840	6459.78	7292.69	7281.77	-1434.24	1649115.83	14303195.17	39°23'16.675"N	80°58'09.160"W	7421.67	348.857	1.01	0.43	0.91		
14351.00	90.680	338.140	6459.01	7387.58	7371.29	-1465.96	1649084.12	14303284.65	39°23'17.560"N	80°58'09.564"W	7515.65	348.752	4.97	0.45	-4.95		
14445.00	90.860	328.040	6457.74	7481.09	7454.99	-1508.44	1649041.66	14303368.32	39°23'18.387"N	80°58'10.104"W	7606.07	348.561	10.75	0.19	-10.74		
14538.00	90.740	329.220	6456.45	7572.79	7534.39	-1556.85	1648993.27	14303447.68	39°23'19.172"N	80°58'10.721"W	7693.56	348.325	1.28	-0.13	1.27		
14633.00	90.770	335.480	6455.19	7667.25	7618.49	-1600.91	1648949.22	14303531.75	39°23'20.004"N	80°58'11.281"W	7784.88	348.133	6.59	0.03	6.59		
14727.00	90.830	333.890	6453.88	7761.06	7703.45	-1641.10	1648909.05	14303616.68	39°23'20.844"N	80°58'11.793"W	7876.32	347.974	1.69	0.06	-1.69		
14821.00	90.770	336.900	6452.57	7854.93	7788.90	-1680.23	1648869.94	14303702.09	39°23'21.688"N	80°58'12.291"W	7968.07	347.827	3.20	-0.06	3.20		
14915.00	90.620	338.490	6451.43	7948.92	7875.86	-1715.90	1648834.28	14303789.01	39°23'22.548"N	80°58'12.745"W	8060.61	347.709	1.70	-0.16	1.69		
15010.00	90.830	339.940	6450.22	8043.89	7964.67	-1749.61	1648800.59	14303877.79	39°23'23.426"N	80°58'13.174"W	8154.57	347.611	1.54	0.22	1.53		
15104.00	90.620	340.120	6449.04	8137.84	8053.01	-1781.71	1648768.50	14303966.09	39°23'24.299"N	80°58'13.582"W	8247.75	347.524	0.29	-0.22	0.19		
15198.00	90.990	341.970	6447.71	8231.70	8141.90	-1812.24	1648737.98	14304054.94	39°23'25.177"N	80°58'13.971"W	8341.14	347.452	2.01	0.39	1.97		

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Actual Wellpath Report

Tinker Unit 2H AWP Proj: 15391'
Page 8 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	Tinker Unit 2H
Field	Tyler	Wellbore	Tinker Unit 2H AWB
Facility	Terry Snider Pad		

WELLPATH DATA (183 stations)																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude [ft]	Longitude [ft]	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
15292.00	90.650	341.330	6446.37	8325.52	8231.11	-1841.83	1648708.40	14304144.12	39°23'26.059"N	80°58'14.347"W	8434.66	347.387	0.77	-0.36	-0.68	
15367.00	90.800	336.900	6445.42	8400.48	8301.16	-1868.56	1648681.68	14304214.14	39°23'26.752"N	80°58'14.687"W	8508.86	347.314	5.91	0.20	-5.91	
15391.00	90.800	336.900	6445.08	8424.48	8323.23	-1877.97	1648672.27	14304236.21	39°23'26.970"N	80°58'14.807"W	8532.46	347.285	0.00	0.00	0.00	Projected MD at TD: 15391'

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Tinker Unit 2H POE - Rev-2	6417.00	459.80	1260.42	1651809.41	14296375.93	39°22'09.239"N	80°57'34.879"W	point
Tinker Unit 2H BHL - Rev-2	6455.00	8344.79	-1899.45	1648650.80	14304257.75	39°23'27.183"N	80°58'15.081"W	point
Tinker Unit 2H LP - Rev-2	6455.00	633.06	1190.99	1651740.00	14296549.13	39°22'10.952"N	80°57'35.762"W	point

WELLPATH COMPOSITION - Ref Wellbore: Tinker Unit 2H AWB				Ref Wellpath: Tinker Unit 2H AWP Proj: 15391'	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	
25.00	5732.00	Gyrodata standard - Drop gyro or Multi-shot	01 Gyrodata MS Gyro <8-3/4"> (100'-5720')	Tinker Unit 2H AWB	
5732.00	15367.00	BHI AutoTrak Curve (Short)	03_AT Curve (Short) <8-1/2"> (5732')(5856'-15367')	Tinker Unit 2H AWB	
15367.00	15391.00	Blind Drilling (std)	Projection to bit	Tinker Unit 2H AWB	

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Actual Wellpath Report

Tinker Unit 2H AWP Proj: 15391'

Page 9 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	Tinker Unit 2H
Field	Tyler	Wellbore	Tinker Unit 2H AWB
Facility	Terry Snider Pad		

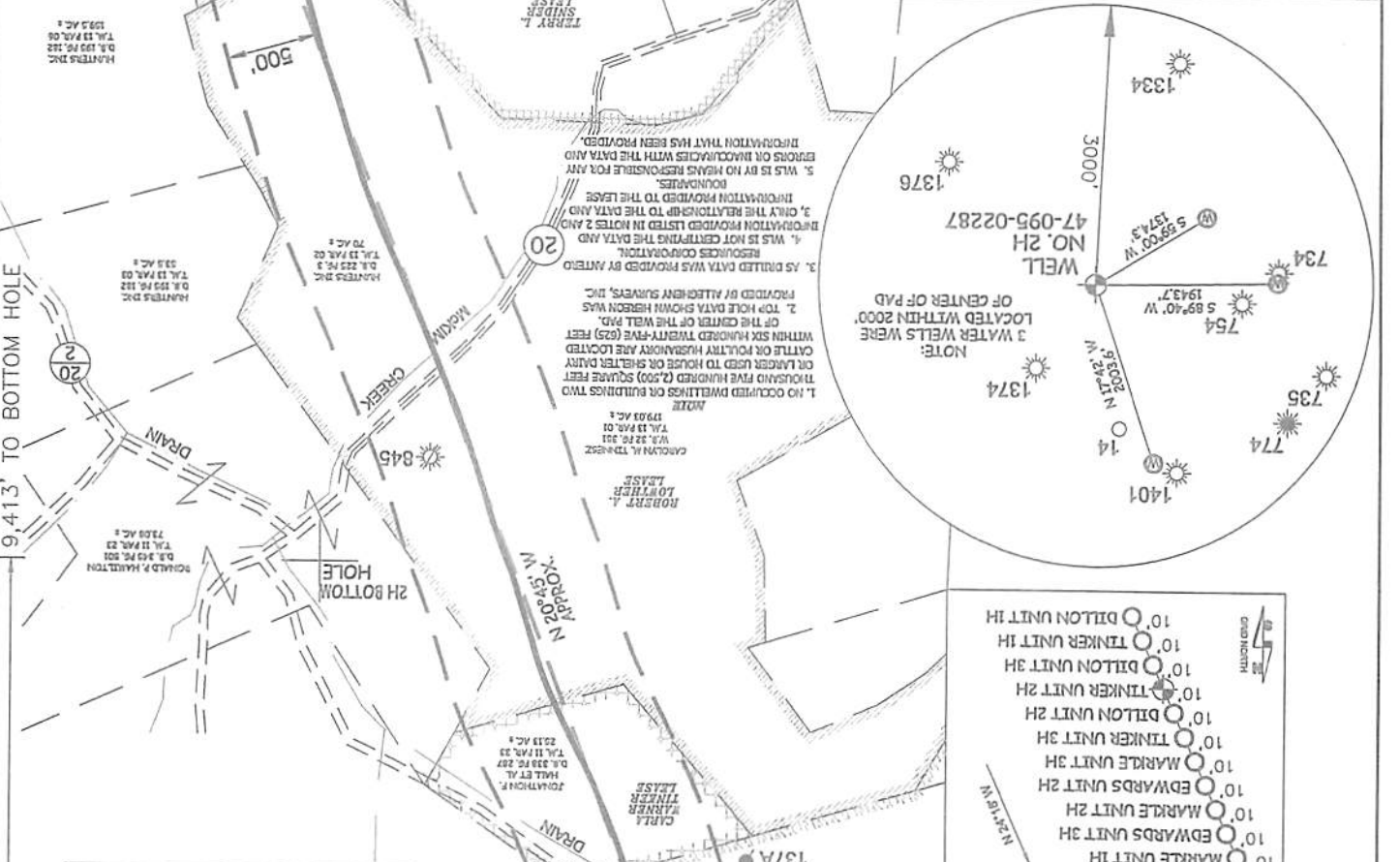
COMMENTS
<p>Wellpath general comments API: 47-095-02287-0000 BHI Job #: 8233007 Rig: Patterson 342 Duration: 11/5/2016-11/10/2016 Gyrodata MS Gyro <8-3/4"> (100'-5720') BHI AT Curve <8-1/2"> (5732')(5856'-15367') Sycamore: 6524' MD Middlesex: 6661' MD Burket: 6823' MD Tully: 6871' MD Marcellus POE: 6897' MD Projected MD at TD: 15391'</p>

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 Environmental Protection

FORM WW-6
 ADDRESS 1615 WYKOOPE STREET DENVER, CO 80202
 WELL OPERATOR ANTERO RESOURCES CORP.
 TARGET FORMATION MARCELLUS
 (SPECIFY) AS DRILLED
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL
 CLEAN OUT & REFLUG
 ESTIMATED DEPTH 6,445 TVD 15,391 MD
 DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM
 ADDRESS 5400 D BIG TYLER ROAD CHARLESTON, WV 25313

PERMIT NAME COUNTY NAME
 SURFACE OWNER RITCHEE PETROLEUM INC.
 OIL & GAS ROYALTY OWNER ASHFORD BROADWAYER, TERRY L. SNIDER, ROBERT A. LOWTHER.
 CARLA WARNER TINKER, BERYLE GARNETT MAYFIELD
 25.125 AC +/- 155.33 ACRES +/-
 LEASE ACREAGE 30.92 ACRES +/-
 COUNTY TILER
 QUADRANGLE PENNSBORO 7.5 - SHL MIDDLEBOURNE 7.5 - BHL DISTRICT MEADE
 STATE 47 COUNTY 095 PERMIT 02287
 WASTE DISPOSAL
 WELLS TYPE: OIL GAS X LIQUID INJECTION
 (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X
 LOCATION: ELEVATION 1,147 AS-BUILT
 WATERSHED OUTLET MIDDLE ISLAND CREEK
 DIVISION OF OIL AND GAS

STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 DATE 08/01/18
 OPERATOR'S WELL # TINKER UNIT #2H
 JOB # 15-031WA
 DRAWING # TINKER2HD
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY
 PROVEN SOURCE OF ELEVATION
 SUBMITTER MAPPING GRADE GPS
 STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 DIVISION OF OIL AND GAS



STATE OF WEST VIRGINIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION, DIVISION OF ENVIRONMENTAL PROTECTION
 WILLLOW LAND SURVEYING PLLC
 220 WASHINGTON AVE. PENNSBORO WEST VIRGINIA 26415
 OFFICE OF OIL AND GAS
 TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERFORMED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
 I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN IS CORRECT

AS DRILLED DATA:
 WELL 2H TOP HOLE INFORMATION:
 N: 319.506ft E: 1.586,071ft
 LAT: 39°22'04.70" LON: 80°57'50.94"
 BOTTOM HOLE INFORMATION:
 N: 327.859ft E: 1.584,332ft
 LAT: 39°23'26.97" LON: 80°55'14.81"
 WEST VIRGINIA COORDINATE HOLE
 SYSTEM OF 1927 NORTH ZONE.
 MEASUREMENTS TAKEN WITH
 TRIMBLE GEOXT SUBMETER
 MAPPING GRADE GPS UNIT,
 PLAT ORIENTATION, CORNER,
 AND WELL REFERENCE TIE LINES
 ARE BASED ON GRID NORTH.
 (NAD) 83 (UTM) ZONE 17 COORDS:
 WELL 2H TOP HOLE INFORMATION:
 N: 4,357.622m E: 503.103m
 BOTTOM HOLE INFORMATION:
 N: 4,360.157m E: 502.531m

LONGITUDE 80°57'30"
 LONGITUDE 80°57'30"
 LATITUDE 39°25'00"
 LATITUDE 39°22'30"
 2,560'
 3,518' TO BOTTOM HOLE
 9,413' TO BOTTOM HOLE

ANTERO RESOURCES CORPORATION
 Well No. Tinker Unit 2H
 A.P.I. 47-095-02287

THOMAS SUMMERS
 LICENSED
 STATE OF WEST VIRGINIA
 PROFESSIONAL SURVEYOR
 No. 2109

PAD LAYOUT
 NOT TO SCALE

WV NORTH ZONE
 GRID NORTH

FORM W-6
 ADDRESS 1615 WYNKOOP STREET
 DENVER, CO 80202
 ANTERO RESOURCES CORP.
 DESIGNATED AGENT
 DIANNA STAMPER - CI CORPORATION SYSTEM
 WELL OPERATOR

MARCELLUS
 TARGET FORMATION
 AS DRILLED
 (SPECIFY) PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION
 OTHER PHYSICAL CHANGE IN WELL
 CLEAN OUT & REPLUG
 ESTIMATED DEPTH 6,445 TVD 15,391 MD
 COUNTY NAME PERMIT

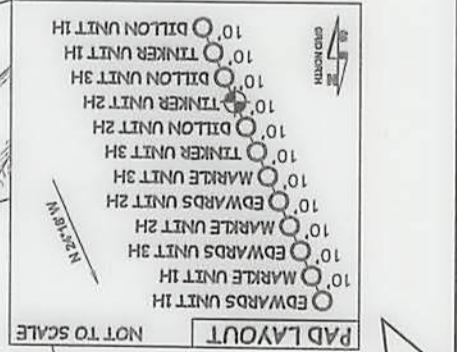
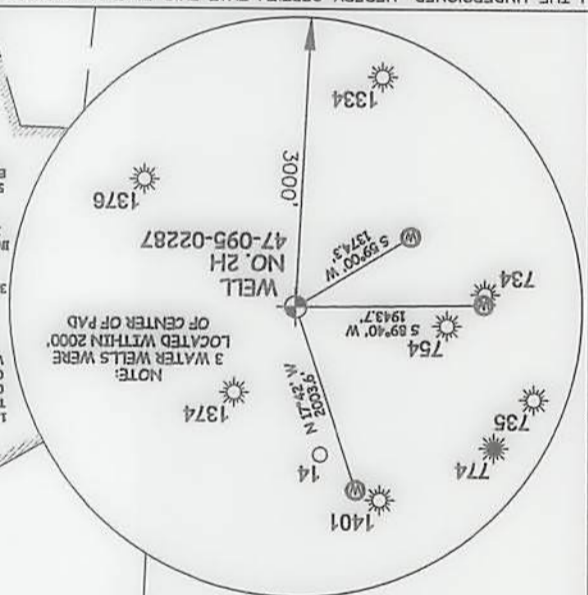
PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL
 CARLA WARNER TINKER, BERYLE GARNETT MAYFIELD
 SURFACE OWNER RITCHIE PETROLEUM INC.
 OIL & GAS ROYALTY OWNER ASHFORD BROADWATER, TERRY L. SNIDER, ROBERT A. LOWTHER
 LEASE ACRES +/- 583.712 ACRES +/- 250 ACRES +/-
 25.125 AC +/- 153.93 ACRES +/-
 COUNTY NAME PERMIT

WELL TYPE: OIL
 GAS X LIQUID INJECTION
 WASTE DISPOSAL
 SHALLOW X DEEP
 LOCATION: ELEVATION 1,147 AS-BUILT
 QUADRANGLE PENNSBORO 7.5 - SHL MIDDLEBOURNE 7.5 - BHL DISTRICT MEADE
 COUNTY TYLER
 STATE OUTLET MIDDLE ISLAND CREEK
 COUNTY PERMIT
 47 095 02287

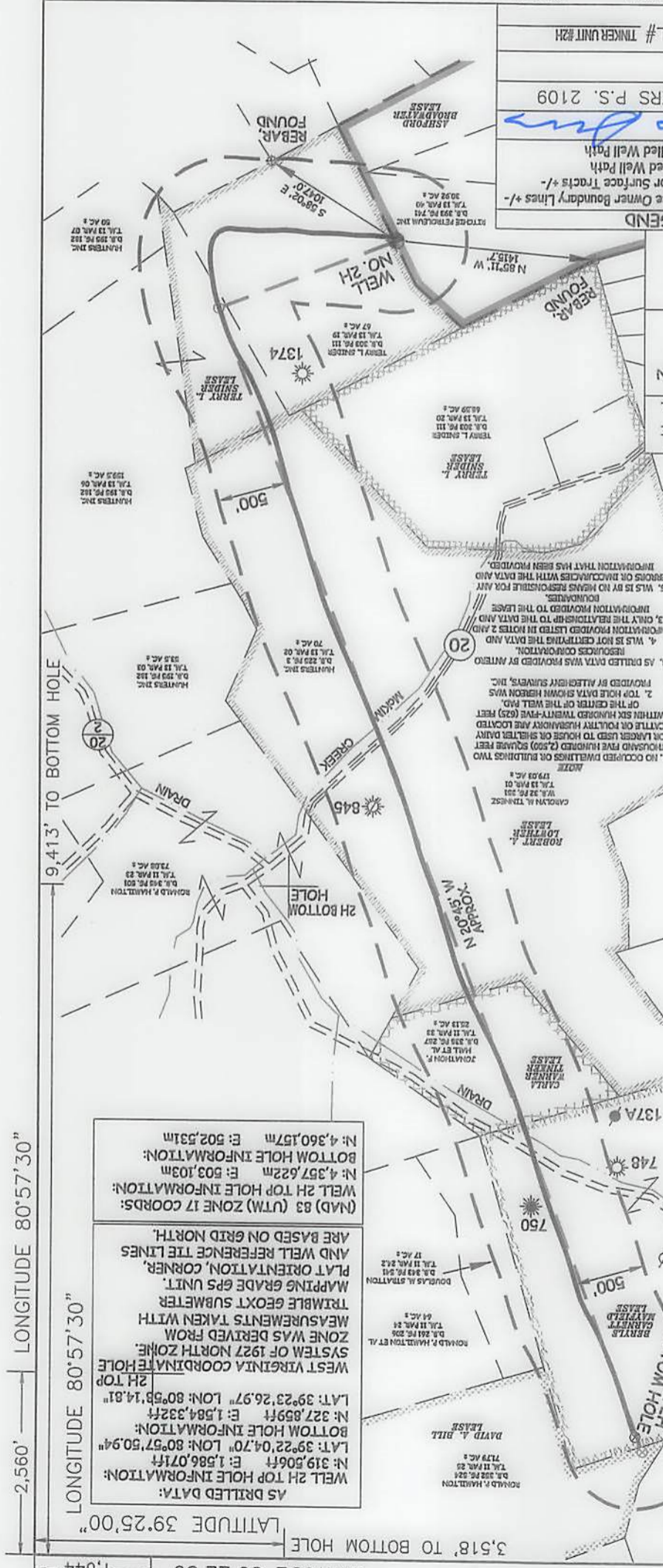


STATE OF WEST VIRGINIA, DIVISION
 OF ENVIRONMENTAL PROTECTION,
 OFFICE OF OIL AND GAS
 WILLOW LAND SURVEYING PLLC
 220 MASONIC AVE, PENNSBORO
 WEST VIRGINIA 26415

JOB # 15-031WA
 DRAWING # TINKER2HAD
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY
 PROVEN SOURCE OF ELEV. SUBMETER
 SUBMETER MAPPING GRADE GPS
 STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 DIVISION OF OIL AND GAS
 DATE 08/01/18
 OPERATOR'S WELL# TINKER UNIT #2H



Antero Resources Corporation
 Well No. Tinker Unit 2H
 A.P.I. 47-095-02287
 LICENSED PROFESSIONAL SURVEYOR
 STATE OF WEST VIRGINIA
 No. 2109
 THOMAS SUMMERS
 WV NORTH ZONE GRID NORTH



AS DRILLED DATA:
 WELL 2H TOP HOLE INFORMATION:
 N: 319,606ft E: 1,586,071ft
 LAT: 39°22'04.70" LON: 80°57'50.94"
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 LAT: 39°23'26.97" LON: 80°55'14.81"
 WEST VIRGINIA COORDINATE HOLE
 ZONE WAS DERIVED FROM
 MEASUREMENTS TAKEN WITH
 TRIMBLE GEOXT SUBMETER
 MAPPING GRADE GPS UNIT.
 PLAT ORIENTATION, CORNER,
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 N: 4,357,622m E: 503,103m
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 N: 4,360,157m E: 502,531m

LATITUDE 39°25'00"
 LONGITUDE 80°57'30"
 2,560' LONGITUDE 80°57'30"
 3,518' TO BOTTOM HOLE
 1,644' LATITUDE 39°22'30"

DENVER, CO 80202

1615 WYNYKOOP STREET

ANTERO RESOURCES CORP.

DESIGNATED AGENT

DIANNA STAMPER - CT CORPORATION SYSTEM

6445 LVD 15301 MD

PLUG & ABANDON

CLEAN OUT & REPLUG

ESTIMATED DEPTH

30.93 ACRES +/-

MEADE COUNTY TYLER

WATERSHED OUTLET MIDDLE ISLAND CREEK

STATE COUNTY PERMIT

WASTE DISPOSAL

47 - 085 - 05287

CHARLESTON, WV 25313

ADDRESS

WELL OPERATOR

ANTERO RESOURCES CORP.

DEPARTMENT OF ENERGY

STATE OF WEST VIRGINIA

SUBMITTER

PROVEN SOURCE OF ELEV.

ACCURACY

MINIMUM DEGREE OF

SCALE

DRAWING #

15-031WA

JOB #

WEST VIRGINIA 2615

350 WASHINGTON AVE. PENNSBORO

WILLOW LAND SURVEYING PLLC



STATE OF WEST VIRGINIA
OFFICE OF OIL AND GAS
OF ENVIRONMENTAL PROTECTION
DIVISION

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

NOTE: 3 WATER WELLS WERE LOCATED WITHIN 5000' OF CENTER OF PAD



Antero Resources Corporation
Well No. Tinker Unit SH
A.P.I. 47-095-05287

CRID NORTH ZONE
WV NORTH ZONE

OPERATOR'S WELL #	TINKER UNIT SH
DATE	08/01/18
THOMAS SUMMERS P. 2. 2109	
ACCURACY	SUBMITTER
MINIMUM DEGREE OF	
SCALE	1" = 1000'
DRAWING #	TINKERSHAD
JOB #	15-031WA

LEGEND

- As Drilled Well Path
- Proposed Well Path
- Interior Surface Tracts +/-
- Surface Owner Boundary Lines +/-

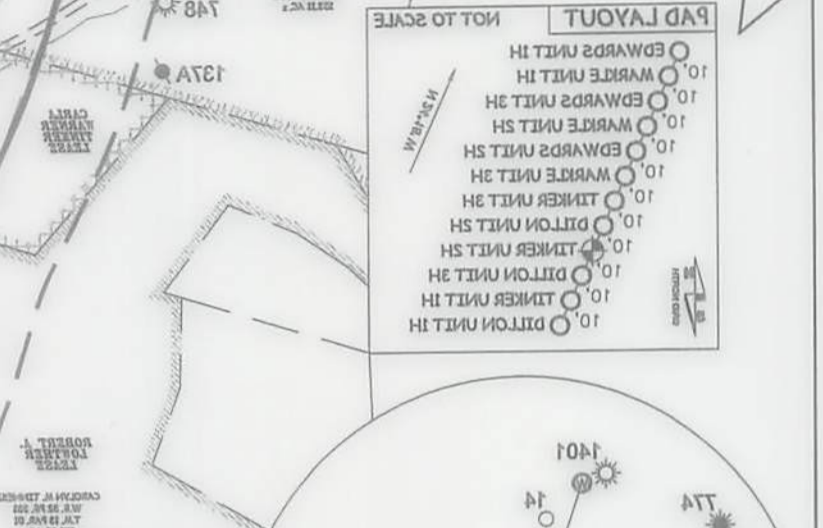
1. NO OCCUPIED DWELLINGS OR BUILDINGS WITHIN 500 FEET OF THE CENTER OF THE WELL PAD. ALL OTHER OCCUPIED DWELLINGS OR BUILDINGS WITHIN 500 FEET OF THE CENTER OF THE WELL PAD WILL BE REMOVED BY ANTERO SURVEY, INC. BEFORE THE WELL IS DRILLED.

2. WELLS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WITH THE DATA AND INFORMATION THAT HAS BEEN PROVIDED.

3. ONLY THE REASONING TO THE DATA AND INFORMATION PROVIDED LISTED IN NOTES 2 AND 4 WAS NOT CERTIFYING THE DATA AND INFORMATION PROVIDED.

4. AS DRILLED DATA WAS PROVIDED BY ANTERO SURVEY, INC.

5. TOP HOLES DATA SHOWN HEREON WAS PROVIDED BY ANTERO SURVEY, INC.



AS DRILLED DATA:
WELL SH TOP HOLE INFORMATION:
N: 319.506ft E: 1.286.071ft
LAT: 39.2520470° LON: 80.27.5094°
BOTTOM HOLE INFORMATION:
N: 327.899ft E: 1.284.332ft
LAT: 39.2525297° LON: 80.27.1481°
SH TOP
WEST VIRGINIA COORDINATE HOLE
SYSTEM OF 1927 NORTH ZONE.
ZONE WAS DERIVED FROM
MEASUREMENTS TAKEN WITH
TRIANGLE GEOST SUBMETER
MAPPING GRADE EPS UNIT.
PLA ORIENTATION, CORNER,
AND WELL REFERENCE TIE LINES
ARE BASED ON GRID NORTH.

(NAD 83 UTM) ZONE 17 COORDS:
WELL SH TOP HOLE INFORMATION:
N: 4.3574525m E: 503.103m
BOTTOM HOLE INFORMATION:
N: 4.360127m E: 505.531m

3,218' TO BOTTOM HOLE
LATITUDE 39.25'00"
LONGITUDE 80.27.30"
3,290' TO BOTTOM HOLE
LONGITUDE 80.27.30"

PERMIT NAME COUNTY

STATE COUNTY PERMIT

WATERSHED OUTLET MIDDLE ISLAND CREEK

STATE COUNTY PERMIT

WASTE DISPOSAL

47 - 085 - 05287

CHARLESTON, WV 25313

ADDRESS

WELL OPERATOR

ANTERO RESOURCES CORP.

DEPARTMENT OF ENERGY

STATE OF WEST VIRGINIA

SUBMITTER

PROVEN SOURCE OF ELEV.

ACCURACY

MINIMUM DEGREE OF

SCALE

DRAWING #

15-031WA

JOB #

WEST VIRGINIA 2615

350 WASHINGTON AVE. PENNSBORO

WILLOW LAND SURVEYING PLLC

OFFICE OF OIL AND GAS

OF ENVIRONMENTAL PROTECTION

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NOTE: 3 WATER WELLS WERE LOCATED WITHIN 5000' OF CENTER OF PAD

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	11/24/2017
Job End Date:	12/29/2017
State:	West Virginia
County:	Tyler
API Number:	47-095-02287-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Tinker Unit 2H
Latitude:	39.36797222
Longitude:	-80.96414722
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,460
Total Base Water Volume (gal):	21,331,380
Total Base Non Water Volume:	0



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Fresh Water	Operator	Base Fluid					
			Water	7732-18-5	100.00000	89.10323	Density = 8.330
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.27810	

MC B-8614	Halliburton	Biocide					
				Listed Below			
SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676)	Halliburton	Proppant					
				Listed Below			
SAND- PREMIUM WHITE-40/70, BULK	Halliburton	Proppant					
				Listed Below			
HAI-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor					
				Listed Below			
SP BREAKER	Halliburton	Breaker					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
FR-76	Halliburton	Friction Reducer					
				Listed Below			
HYDROCHLORI C ACID	Halliburton	Solvent					
				Listed Below			

MC MX 2-2822	Halliburton	Scale Inhibitor					
				Listed Below			
Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.							
			Crystalline silica, quartz	14808-60-7	100.00000	10.55550	
			Hydrochloric acid	7647-01-0	15.00000	0.03235	
			Guar gum	9000-30-0	100.00000	0.02826	
			Acrylamide acrylate copolymer	Proprietary	30.00000	0.02237	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02237	
			Inorganic salt	Proprietary	30.00000	0.02237	
			Methanol	67-56-1	60.00000	0.00413	
			Amines, polyethylenepoly-, ethoxylated, phosphonomethylated, sodium salts	70900-16-2	30.00000	0.00399	
			Glutaraldehyde	111-30-8	30.00000	0.00263	
			Sodium persulfate	7775-27-1	100.00000	0.00073	
			Sodium chloride	7647-14-5	5.00000	0.00067	
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00044	
			Ethanol	64-17-5	1.00000	0.00009	
			Fatty acids, tall oil	Proprietary	30.00000	0.00006	
			Modified thiourea polymer	Proprietary	30.00000	0.00006	
			Ethoxylated alcohols	Proprietary	30.00000	0.00006	
			Olefins	Proprietary	5.00000	0.00002	
			Propargyl alcohol	107-19-7	10.00000	0.00002	
			Formaldehyde	50-00-0	0.09000	0.00001	

			Phosphoric acid	7664-38-2	0.10000	0.00001	
			Sodium sulfate	7757-82-6	0.10000	0.00000	

* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

*** If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)